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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

GENCO, BRIAN C

| ART UNIT | PAPER NUMBER |
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2615

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/988,994 | HORI ET AL. | |
| | Examiner | Art Unit | |
| | Brian C Genco | 2615 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 15-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

Applicant's amendment filed August 31, 2004 has been fully considered by the Examiner but is not deemed persuasive.

Applicant argues that the previous Office Action is incomplete because the Examiner has failed to identify the status of claims 31-35.

In response, the status of claims 31-35 is clearly indicated as rejected on the Office Action Summary (PTO-326). Furthermore, as indicated on page 6 of the Office Action claims 31-35 were rejected based on the same grounds of rejection used for the previous claims. Examiner apologizes for the typographical error made on the heading for the rejection on page 4 of the Office Action. This typographical error will be corrected herein bellow.

Applicant argues that the Examiner must point to something in the prior art that suggests in some way a modification of a particular reference or a combination of references.

In response, Examiner notes that there does not need to be motivation provided in AAPA as long as motivation is provided in Endsley. Furthermore, Examiner notes that there is explicit motivation provided in both references. In particular, AAPA teaches on pages 5 and 6 that the generation of the monochromatic image utilizing the prior art method requires extra time thereby providing implicit motivation that a faster monochrome image generation is needed. Also, Endsley provides explicit motivation for generating a monochromatic image by outputting only the green pixels in order to have a faster read-out time as was detailed in the previous Office Action.

Applicant argues that neither AAPA nor Endsley alone or in combination teach the “single synthesized image data ... generated by one color image and the same color image obtained by shifting by a distance corresponding to a predetermined pitch on the imaging surface in a predetermined direction”, and that such “ single synthesized image data ... output as single monochromatic image data”.

In response, Examiner respectfully disagrees. Examiner notes that all of the above limitations have been addressed in the previous Office Action. Namely, AAPA teaches pixel shifting to increase resolution and Endsley teaches only outputting green pixels when generating monochromatic images so as to output the images faster.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Therefore the arguments that AAPA does not disclose only outputting green pixels for the generation of a monochromatic image and the argument that Endsley does not disclose pixel shifting are moot. Applicant is required to consider the combined teaching of AAPA and Endsley as a whole.

Applicant argues that even if Endsley and AAPA were combined as suggested by the Examiner they would not arrive at the Applicant's base claims since neither of the references disclose or suggest the object of the present invention, that is, to generate a monochromatic image of high resolution in a short time using the image shift scheme.

In response, Examiner respectfully disagrees. The combination of references teach all of the claim limitations and as such they do suggest to generate a monochromatic image of high resolution in a short time using the image shift scheme.

Applicant's argue that the limitations of claims 16-18, and 26-28 have not been addressed any where in the final Office Action (Paper No. 17).

In response, Examiner notes that those limitations were addressed in the final Office Action (Paper No. 17). More importantly, Examiner notes that they were again clearly addressed in the most recent Office Action mailed on June 3, 2004.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Applicant argues that the limitation in claims 36 and 37 of the apparatus being used "for reading a document printed in black and white while using a color imaging device" are not taught by Endsley because "the monochrome mode is the continuous mode".

In response to applicant's argument that the combination does not disclose the apparatus being used "for reading a document printed in black and white while using a color imaging device", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the

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intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Examiner notes that cameras can be used to capture images of a vast multitude of objects.

Furthermore, Applicant's assertion that the monochrome mode is the continuous mode is not deemed persuasive. Examiner notes that these are two separate modes that can be changed, i.e., continuous or single-shot and monochrome or color. While Endsley does disclose an example where the monochrome mode is used in the continuous mode Endsley further discloses other combinations of configurations can be readily implemented (column 8, lines 34-35). As such it is clearly envisioned by Endsley to utilize the monochrome mode in the single-shot mode if necessary.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the apparatus being used "for reading a document printed in black and white while using a color imaging device" is captured as a still image) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Examiner notes that a moving image is merely a sequence of still images taken/displayed at an interval of time such that the human eye cannot distinguish between the individual images. As such, even if Endsley were limited only to the continuous mode when utilizing the monochromatic mode and even if the claims were limited that the document must be captured as a still image, Endsley would still meet the limitations.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 15-37 are rejected under 35 U.S.C. 103(a) as being obvious over (Applicant's Admitted Prior Art) in view of (USPN 6,005,613 to Endsley et al.).

In regards to claim 15 Applicant's admitted prior art discloses an image processing apparatus comprising:

an imaging optical system for forming an image of an object on an imaging surface (e.g., page 1, lines 9-13);

a color imaging device including photo-detectors and a color filter arranged on the imaging surface in two-dimensions, for performing photoelectric conversion of the image of the object formed by the imaging optical system to obtain image data of the image of the object extracted through selected only one color of the color filter (e.g., Fig. 4A; page 2 lines 14-19; page 3, lines 2-14);

shift drive means for shifting the imaging optical system and the photodetectors relative to each other by a distance corresponding to a predetermined pitch on the imaging surface in a predetermined direction in order to obtain image data having a required resolution (e.g., Figs. 4B and 4D; page 3, lines 2-14; page 4, lines 6-15); and

a control unit for generating single synthesized image data using image data of the image of the object obtained through selected only one color of the color filter of the color imaging device, and image data of the image of the object obtained through the selected only one color of

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the color filter when the imaging optical system and the photo-detectors are shifted relative to each other by the shift drive means by a distance corresponding to a predetermined pitch on the imaging surface in a predetermined direction (e.g., page 3, lines 11-14; page 4, lines 11-15).

Applicant's admitted prior art does not disclose extracting the only one color of the color filter exclusive of other non-selected colors of the color filter or that the control unit includes output means for outputting the single synthesized image data as single monochromatic image data.

Endsley et al., herein Endsley, discloses a camera with multiple output modes wherein a user can easily switch between a color image and a monochromatic image (e.g., column 5, lines 43-47; column 6, lines 3-14). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have used Endsley's method of switching color modes in order to easily switch between a color image and a monochromatic image. Thus, as disclosed by Endsley, in the monochromatic color mode only green image data is output. Examiner notes that this enables the output to occur twice as fast as that in the color mode (column 7, lines 44-54). In combining this teaching with Applicant's admitted prior art only the green image data is output for each frame of image data taken. Examiner notes that Applicant's admitted prior art teaches that generating the monochromatic image using the prior art method disclosed by Applicant requires a long time (page 5, lines 13-19). Therefore it further would have been obvious to one of ordinary skill in the art at the time of the invention to have simply output the green image data for each frame of image data taken and to thus use that image data to form a high resolution monochromatic image in order to reduce processing time and enable easy switching between monochrome and color image outputs.

In regards to claim 16 see Fig. 4A and page 2, lines 14-19.

In regards to claim 17 Applicants admitted prior art teaches shifting by either 1 pixel wherein $n=1$ or by half a pixel wherein $n=2$.

In regards to claim 18 note that Applicants admitted prior art teaches to shift the pixels a plurality of times by half a pixel.

In regards to claim 19 see Figs. 4B and 4D. Examiner notes that each time an image shift takes place a new image is produced. As such, the control unit obtains N images, when the predetermined number of times is N.

In regards to claim 20 note that Endsley discloses that only the green image data is used.

In regards to claims 21-35 see Examiners notes on the rejections above.

In regards to claim 36 see Examiners notes on the rejections above. Note that the limitation "for forming an image of a document (voucher or slips) printed in monochrome (black and white)" is an intended use limitation.

Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

In regards to claim 37 see Examiners notes on the rejections above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 703-305-7881 or by fax at 703-746-8325. The examiner can normally be reached on Monday thru Friday 8:30am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is 703-308-4357.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian C Genco
Examiner
Art Unit 2615

December 27, 2004

A handwritten signature in black ink, appearing to read 'Andrew Christensen', is written over a horizontal line.

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600